

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (currently amended) A minimally invasive surgical instrument comprising:
 - an elongate shaft having a working end, a proximal end, and a shaft axis between the working end and the proximal end;
 - an end effector;
 - a wrist member having a flexible tube and an inner spring, the flexible tube including a proximal portion connected to the working end of the elongate shaft and a distal portion connected to the end effector, which include the inner spring including a proximal portion[[s]] connected to the working end of the elongate shaft and a distal portion[[s]] connected to the end effector, the inner spring being disposed inside an interior cavity of the flexible tube, the inner spring having an axis which is parallel to an axis of the flexible tube; and
 - a plurality of actuation cables having distal portions connected to the end effector and extending from the distal portion through the wrist member toward the elongate shaft to proximal portions which are actuatable to bend the flexible tube and the inner spring of the wrist member in pitch rotation and yaw rotation.
2. (original) The instrument of claim 1 wherein the actuation cables are disposed inside a hollow interior of the inner spring.
3. (original) The instrument of claim 1 wherein at least three actuation cables are connected to the end effector.
4. (withdrawn) The instrument of claim 1 wherein the proximal portions of the actuation cables are connected to a gimbal plate configured to actuate the actuation cables, the gimbal plate being disposed proximal of the proximal end of the elongate shaft.

5. (withdrawn) The instrument of claim 1 wherein the actuation cables are disposed between the inner spring and the flexible tube.

6. (withdrawn) The instrument of claim 5 wherein the flexible tube includes interior axial slots bounded by an external surface of the inner spring to form lumens for receiving the actuation cables.

7. (withdrawn) The instrument of claim 1 wherein the flexible tube includes a plurality of transverse cut-outs which are generally transverse to the axis of the flexible tube.

8. (canceled)

9. (canceled)

10. (canceled)

11. (canceled)

12. (withdrawn) The instrument of claim 1 further comprising an outer cover wrapped around an external surface of the flexible tube.

13. (withdrawn) The instrument of claim 7 wherein the transverse cut-outs comprise alternating layers of cut-outs each having a pair of cut-outs which are disposed opposite to one another, the cut-outs of each layer being oriented in a direction which is spaced by about 90 degrees from the cut-outs of an adjacent layer.

14. (canceled)

15. (canceled)

16. (canceled)

17. (canceled)

Appl. No. 10/726,795

PATENT

Amdt. dated June 3, 2005

Reply to Office Action of October 28, 2004, and the Notice
of Non-Compliant Amendment mailed May 27, 2005

18. (canceled)

19. (canceled)

20. (canceled)

21. (canceled)

22. (canceled)

23. (canceled)

24. (canceled)

25. (canceled)

26. (canceled)

27. (canceled)

28. (canceled)

29. (canceled)

30. (canceled)

31. (canceled)

32. (canceled)

33. (canceled)

34. (canceled)

35. (canceled)

36. (canceled)

37. (canceled)

38. (new) The instrument of claim 1 wherein the wall of the flexible tube comprises a plurality of axial sliding members which are slidably connected with each other by an axial connection generally parallel to the axis of the flexible tube.

39. (new) The instrument of claim 38 wherein the axial connection comprises a tongue and groove connection.

40. (new) The instrument of claim 38 wherein each axial sliding member includes a lumen for receiving one of the actuation cables.

41. (new) The instrument of claim 38 wherein each axial sliding member is integrally formed with one of the actuation cables as an integrated sliding element.

42. (new) The instrument of claim 1 wherein the wrist includes a distal termination disk connected to a distal end of the flexible tube, the distal termination disk being substantially more rigid than the flexible tube.